

Work Order ID 81399

\*81399\*

Page 1

March-14-12 7:47:38 AM

Item ID: D350-636-015

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 27/03/2012 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 12/03/14

Tooling:

Date:

Run Start \*NR1\*

QC: Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3492	C
D4168	A
IIN-D350-636	I

100

0.00

\*100\*

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-015 CHG 002

or chg 3 per  
ECN 12-542  
(depends on 04151-041)  
Rev B or C

12-05-10  
12-5-10  
MLJ

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	Skidtubes	0.00							
*110*									
Skidtubes	Memo	0.00							
Skidtubes	1- Pick D2600-3 Bent								
	2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168								
	3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr, section H-H								
	4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting, section H-H								
	5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168, detail A								
	6- Drill pilot holes as per Dwg D4168 sheet 4 (D4168-1 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)								
	7- Clecko DT8863B on second side of tube and drill pilot holes for detail B. ***SECOND SIDE***								
	8- Drill most FWD wearplate hole using DT9678 locating off of 66.54" hole.								
	9-Open up holes of Detail A to 0.297" (total of 2 holes per side) and .201" (total of 1 hole per side) open holes of detail D section H-H to 0.500" as per dwg D4168								
	10-Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004								

B 12/04/04

# Dart Aerospace Ltd

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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A/R Aluminum Rod batch: M120164 BE 12/04/05  
11-Grind welds flush as per Dwg D4168 -> CF 12.45

120 QC10- Inspect visual per QS1004- ground welds 0.00

\*120\*

QC

Memo

0.00

Quality Control

130 QC5- Inspect part completeness to step on W/O 0.00

\*130\*

QC

Memo

0.00

Quality Control

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Stop \*NR2\*

QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Chemical Conversion Coat per QSI005 4.1	0.00							
*140*									
HandFinish	Memo	0.00							
Hand Finishing									
150	QC3- Inspect Part Finish	0.00							
*150*									
QC	Memo	0.00							
Quality Control									

① SAT 12-04-09

1 Ø BE12-04-10

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

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Run Start **\*NR1\***

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Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Skidtubes	0.00							
<b>*160*</b>									
Skidtubes		0.00							
Skidtubes	<b>Memo</b> 1-Open up holes of Detail C and ground handling section AL-AL to 0.625" (total of 8 holes per side) as per dwg D4168.  2-Open up holes of Detail B to 0.750" (total of 4 holes per side) as per dwg D4168.  3- Open float hole to 0.500" (4 per side) section AJ-AJ  Open wearplate holes to size as per dwg (4 holes per sides) , section CG-CG  4-Chamfer holes of Detail B, C, ground handling section AL-AL and float holes section AJ-AJ per dwg D4168 (welding instructions on sheet 8)  5-Deburr and blow out all chips from inside of tube  6- Prepare tube for welding, remove alodine as required.  7-Bond web D2739 in place as per QSI 015 A/R Sikaflex-291 batch: <u>120813</u> exp. date: <u>12/08/13</u>  8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 and D4170-1 & QSI004 (welding instructions on sheet 8) A/R Aluminum Rod batch: <u>M120854</u>  9- At section AJ-AJ drill out x-bolt spacer to 0.404"								

BB 12/04/10

30E 12/04/12

# Dart Aerospace Ltd

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Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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10-Grind welds flush as per Dwg D4168

11-Spot face ground handling holes section (total of 4 places per side) as per dwg D4168, section AL-AL

12- C'bore section CG-CG

13- Debur holes

\*\*\*\*\* FOR DELUXE SKIDTUBE IF APPLICABLE DRILL TOW RING HOLE IN TUBE \*\*\*\*\*

170

QC10- Inspect visual per QSI004- ground welds

0.00

\*170\*

QC

Memo

0.00

Quality Control

7/6 / 12-4-13  
CF  
B/CC 12/4/16

8/26/16

# Dart Aerospace Ltd

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Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180

QC5- Inspect part completeness to step on W/O

0.00

\*180\*

QC

Memo

0.00

Quality Control

190

Pressure Wash per QSI005 4.3

0.00

\*190\*

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

\*200\*

Powdercoat

Memo

0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

1:10  
320 °F  
1:40

Mk/HG/12-4-17

IXY Mk 12/24/17

M121134

# Dart Aerospace Ltd

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Run Start \*NR1\*

QC: Date: SPC (Y/N): Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC3- Inspect Part Finish	0.00							
*210*									
QC	Memo	0.00							
Quality Control	Inspect for foreign object per QSI 024								
220	HandFinishing	0.00							
*220*									
HandFinish	Memo	0.00							
Hand Finishing	1- Install inserts as per Dwg D4168								

164 d 12/05/09

144 2 2P 12/05/09

W/O:		WORK ORDER CHANGES					
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Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

230

0.00

**\*230\***

HandFinish

HandFinishing

Memo

0.00

Hand Finishing

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch: N/A

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D4168

SIKA FLEX 241

BATCH: 121221EXP DATE: 13/01

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: 1103485-Coat all exposed fasteners with "LPS Procyon" batch: 114596

240

QC5- Inspect part completeness to step on W/O

0.00

**\*240\***

QC

Memo

0.00

Quality Control

1 8 20 12/05/09  
244

8.7/10/09

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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250

Pick Kit

0.00

\*250\*

Packaging

Memo

0.00

Packaging

If making a D350-636-215  
pick kit will only requires:  
1 X AN3C37A  
1 X AN3C34A  
1 X AN3C42A  
2 X D3493-1

12/5/98  
SP

260

QC4- 100% Inspect kits for completeness

0.00

\*260\*

QC

Memo

0.00

Quality Control

\*\*\*\*\*ensure antiseize is on AN8C21A bolts\*\*\*\*\*

① 12-05-10

270

Packaging

0.00

\*270\*

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPPD350-636-015  
Location:                       
PPP rev:                     

K 81399 12-5-10

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Stop \*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

280

QC21- Final Inspection - Work Order Release

0.00

\*280\*

QC

Memo

0.00

Quality Control

12/5/10  
MCS 12/05/10

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# Picklist Print

March-14-12 7:47:42 AM

Page 1

Work Order ID: 81399

\*81399\*

Parent Item: D350-636-015

\*D350-636-015\*

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

## Comments:

IPP rev:A 10.09.28 new issue DD verf:EC

IPP Rev:B

11.04.14 ecn11-553 DD verf:EC

IPP Rev:C 11.10.18 as per

NCR 11-906 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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AN3C34A

Purchased

No

230

Each

51.0000

1

1

\*AN3C34A\*

BOLT

\*\*

1

DP

12/05/09

### Location

### Loc Qty

### Loc Code

ST353

51

116075 ✓

31

117514

20

AN3C36A

Purchased

No

230

Each

158.0000

4

4

\*AN3C36A\*

BOLT

\*\*

4

DP

12/05/09

### Location

### Loc Qty

### Loc Code

FG

4

101261

4

ST353

154

116590

0

119083

2

119324 ✓

57

120641

40

121013

55

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

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Work Order ID: 81399

**\*81399\***

Parent Item: D350-636-015

**\*D350-636-015\***

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C37A

Purchased

No

230

Each

110.0000

1

1

**\*AN3C37A\***

BOLT

\*\*

M121584

SP

## Location

## Loc Qty

## Loc Code

ST354

110

116874

11

117010

2

120422

47

120731

50

AN3C42A

Purchased

No

230

Each

43.0000

1

1

**\*AN3C42A\***

BOLT

\*\*

SD

SP

## Location

## Loc Qty

## Loc Code

ST354

43

106176

1

118131

2

119673

15

120464

25

D3492-1

Manufactured

No

230

Each

130.0000

8

8

**\*D3492-1\***

Plug

\*\*

8

SP

12/05/09

## Location

## Loc Qty

## Loc Code

FP002

130

69531

8

74444

2

76235

20

77037

100

83098

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Work Order ID: 81399

\*81399\*

Parent Item: D350-636-015

\*D350-636-015\*

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3492-3 Manufactured No

230 Each

69.0000 8 8

\*D3492-3\*

Plug

\*\*

8 (DP) 12/05/09

Location

Loc Qty

Loc Code

FP-A

83099 ✓

69

78600

69

D3873-1 Manufactured No

230 Each

228.0000 7 7

\*D3873-1\*

Bushing

\*\*

7 (DP) 12/05/09

Location

Loc Qty

Loc Code

ST057

76791 ✓

182

79561

182

ST067

46

64760

1

68247

4

73829

19

73830

2

79560

20

D4154-041 Manufactured No

230 Each

2.0000 1 1

\*D4154-041\*

Wearplate Assembly

\*\*

1 (DP) 12/05/09

Location

Loc Qty

Loc Code

FG

80729 ✓

2

77007

2

D4170-1 Manufactured No

230 Each

13.0000 4 4

\*D4170-1\*

Bushing

\*\*

BE 12/04/08  
B 82043 \*4

Location

Loc Qty

Loc Code

LG001

13

71844

5

76677

8

March-14-12 7:47:42 AM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Work Order ID: 81399

\*81399\*

Parent Item: D350-636-015

\*D350-636-015\*

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D4171-1 Manufactured No

230 Each

9.0000 1 1

\*D4171-1\*

Bushing

\*\*

12/05/09

## Location

## Loc Qty

## Loc Code

ST135

9

77008 ✓

9

MS21043-3 Purchased No

230 Each

840.0000 4 4

\*MS21043-3\*

Nut

\*\*

12/05/09

## Location

## Loc Qty

## Loc Code

FG

72

103691

72

GA

334

120693

334

ST301

434

118077

2

118614 ✓

382

118686

30

119758

20

NAS1149C0363R Purchased No

230 Each

3,381.000 8 8

\*NAS1149C0363R\*

Washer

\*\*

12/05/09

## Location

## Loc Qty

## Loc Code

ST297

3381

114742 ✓

3381

\* should be 5 instead of 4 \* (SP)

\* should be 9 instead of 8 \* (SP)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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**NOTE:** Date & initial all entries

# Picklist Print

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Work Order ID: 81399

\*81399\*

Parent Item: D350-636-015

\*D350-636-015\*

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1515H3L

Purchased

No

230

Each

184.0000

4

4

\*NAS1515H3I \*

WASHER

\*\*

4

(24)

12/05/09

## Location

## Loc Qty

## Loc Code

FG

121556✓

40

102472

40

ST277

144

118686

3

119438

1

120072

40

120360

100

NAS1611-010

Purchased

No

230

Each

209.0000

8

8

\*NAS1611-010\*

O-RING

\*\*

8

(24)

12/05/09

## Location

## Loc Qty

## Loc Code

FP

50

110915

0

120770

50

FP001

159

110915

14

117460

8

118077

1

118612

3

119438

47

120308

36

120986

50

121415✓

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
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Work Order ID: 81399

\*81399\*

Parent Item: D350-636-015

\*D350-636-015\*

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-013

Purchased

No

230

Each

168.0000

8

8

\*NAS1611-013\*

O-RING

\*\*

8

12/05/09

Location

Loc Qty

Loc Code

FP001

121584

168

116582

5

117291

2

117887

53

119623

36

120360

22

120910

50

NAS1149D0863J

Purchased

No

250

Each

231.0000

2

2

\*NAS1149D0863.J\*

WASHER

\*\*

2

8

Location

Loc Qty

Loc Code

ST298

231

118078

36

119307

95

120308

100

D2744

Manufactured

No

110

Each

60.0000

1

1

\*D2744\*

Cap

\*\*

BE 12/04/05

Location

Loc Qty

Loc Code

LG002

60

62715

1

70881

10

71861

7

78900

42

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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**NOTE:** Date & initial all entries

# Picklist Print

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Work Order ID: 81399

\*81399\*

Parent Item: D350-636-015

\*D350-636-015\*

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT

Manufactured No

110 Each

25.0000

1

1

\*D2600-3-BENT\*

Extrusion Bent

\*\*

1 DB 12/04/04 \*

Location

82347

Loc Qty

Loc Code

LG

25

66875

7

73253

1

75021

1

75022

1

75023

1

81330

14

D2743

Manufactured No

160 Each

248.0000

8

8

\*D2743\*

Crossbolt Spacer

\*\*

8E12/04/12  
8 81965 x8

Location

Loc Qty

Loc Code

LG001

248

67766

4

68251

3

73403

64

74445

1

78603

76

79517

100

D2739

Manufactured No

160 Each

8.0000

1

\*D2739\*

350 I Beam

\*\*

1  
3 12/04/10

Location

Loc Qty

Loc Code

LG

8

72155

1

80083

7

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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**NOTE:** Date & initial all entries

# Picklist Print

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Work Order ID: 81399

**\*81399\***

Parent Item: D350-636-015

**\*D350-636-015\***

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3490-3 Manufactured No

160 Each

38.0000

4 4

**\*D3490-3\***

Cross Bolt Spacer

**\*\***

*BE 12/04/12  
B 82016 x4*

Location

Loc Qty

Loc Code

LG001

38

78800

38

D3490-1 Manufactured No

160 Each

49.0000

4 4

**\*D3490-1\***

Cross Bolt Spacer

**\*\***

*BE 12/04/12  
B 81976 x4*

Location

Loc Qty

Loc Code

LG001

49

62450

2

74875

4

77042

3

78793

40

ALS4-1032-225 Purchased No

230 Each

1,134.000

4 4

**\*ALS4-1032-225\***

Insert

**\*\***

*4 (2P) 12/05/09*

Location

Loc Qty

Loc Code

ST281

1021

108696

146

110768

62

118386

55

118966

68

120671

690

ST282

113

120410

100

120451

13

*121269 ✓*

March-14-12 7:47:42 AM

Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Work Order ID: 81399

**\*81399\***

Parent Item: D350-636-015

**\*D350-636-015\***

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

AN8C35A

Purchased

No

230

Each

65.0000

1

1

**\*AN8C35A\***

BOLT

\*\*

1

12/05/09

## Location

## Loc Qty

## Loc Code

FP002

64

115960

1

117834

10

118286 ✓

53

ST346

1

114442

0

115188

0

115960

1

D3488-041

Manufactured

No

230

Each

17.0000

1

1

**\*D3488-041\***

Blade Fitting Assembly, LH

\*\*

1

12/05/09

## Location

## Loc Qty

## Loc Code

FP002

17

61689

1

75056

7

77021

9

AN6C44A

Purchased

No

230

Each

107.0000

4

4

**\*AN6C44A\***

BOLT

\*\*

4

12/05/09

## Location

## Loc Qty

## Loc Code

FG

2

103964

2

ST343

105

120095

12

120143

25

120465

27

120641

21

121013

20

March-14-12 7:47:42 AM

Shop Packet Print

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**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

**Part No:** \_\_\_\_\_ **PAR #:** \_\_\_\_\_ **Fault Category:** \_\_\_\_\_ **NCR:** Yes No **DQA:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Resolution:** \_\_\_\_\_ **Disposition:** \_\_\_\_\_ **QA: N/C Closed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

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Work Order ID: 81399

\*81399\*

Parent Item: D350-636-015

\*D350-636-015\*

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

230

Each

85.0000

1

1

\*MS21083C8\*

NUT

\*\*

1 (28) 12/05/09.

Location

Loc Qty

Loc Code

FP002

121185 ✓

1

115884

1

ST303

14

115884

0

118077

1

119309

2

119436

9

119638

2

ST304

70

120142

20

120731

25

121011

25

D3631-1

Manufactured

No

230

Each

223.0000

8

8

\*D3631-1\*

Washer

\*\*

8 (28) 12/05/09.

Location

Loc Qty

Loc Code

ST072

83588 ✓

223

68062

2

75548

221

AN960C10L

✱

NAS1149C0332 R

✓ Purchased

No

230

Each

0.0000

4

4

\*AN960C10L \*

washer

\*\*

4 (28) 12/05/09.

121509 ✓

March-14-12 7:47:43 AM

Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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# Picklist Print

March-14-12 7:47:43 AM

Work Order ID: 81399

**\*81399\***

Parent Item: D350-636-015

**\*D350-636-015\***

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D2745

Manufactured No

230 Each

136.0000 8 8

**\*D2745\***

Bushing

\*\*

8

PP

12/05/09

Location

Loc Qty

Loc Code

FP

81964 ✓

100

79518

100

FP001

36

69529

1

76142

1

78597

34

NAS1149C0832R

Purchased

No

230 Each

304.0000 1 1

**\*NAS1149C0832R\***

WASHER

\*\*

1

PP

12/05/09

Location

Loc Qty

Loc Code

ST297

114915 ✓

304

304

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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# Picklist Print

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Work Order ID: 81399

\*81399\*

Parent Item: D350-636-015

\*D350-636-015\*

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased

No

230

Each

623.0000

4

4

\*AN3C6A\*

BOLT

\*\*

4

②P

12/05/09

Location

Loc Qty

Loc Code

FP001

1

111982

1

ST351

622

111982

2

116419

23

116549

2

116704

12

117619

10

117688

1

117872

5

118422

13

119449

21

120423

133

120693 ✓

400

MS21043-6

Purchased

No

230

Each

809.0000

4

4

\*MS21043-6\*

NUT

\*\*

4

②P

12/05/09

Location

Loc Qty

Loc Code

FG

20

103693

20

ST301

789

112314

83

117887

6

118384 ✓

200

120308

500

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Work Order ID: 81399

**\*81399\***

Parent Item: D350-636-015

**\*D350-636-015\***

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3493-1

Manufactured No

250 Each

66.0000

2

2

**\*D3493-1\***

Washer

\*\*

*B2223*

*SP*

Location

Loc Qty

Loc Code

ST050

66

70697

2

77573

24

78835

40

MS21083C8

Purchased No

250 Each

85.0000

2

2

**\*MS21083C8\***

NUT

\*\*

*m121524*

*SP*

Location

Loc Qty

Loc Code

FP002

1

115884

1

ST303

14

115884

0

118077

1

119309

2

119436

9

119638

2

ST304

70

120142

20

120731

25

121011

25

AN8C21A

Purchased No

250 Each

51.0000

2

2

**\*AN8C21A\***

BOLT

\*\*

*m121167*

*SP*

Location

Loc Qty

Loc Code

ST343

51

118758

5

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42

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4

March-14-12 7:47:43 AM

Shop Packet Print

Page 13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

March-14-12 7:47:43 AM

Page 14

Work Order ID: 81399

\*81399\*

Parent Item: D350-636-015

\*D350-636-015\*

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250

Each

37.0000

1

1

\*D2741\*

Blade, 350 Skidtube

\*\*

1379516

12/5/12

## Location

## Loc Qty

## Loc Code

ST

-10

ST466

47

71856

1

76984

36

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

# GENERAL NOTES:

- MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:  
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.  
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- WELD PER DART QSI 004
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:  
MINIMUM YIELD TENSILE STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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NO. 81399 MCT  
12/03/14

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2010-09-15

A	NEW ISSUE	DESCRIPTION	SC	10.08.09
REV.			BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.		
DRAWN	SC	PORT HADLOCK, WA		
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MFG. APPR.		D4168	SHEET 1 OF 11	
APPROVED		TITLE	SCALE	
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS	
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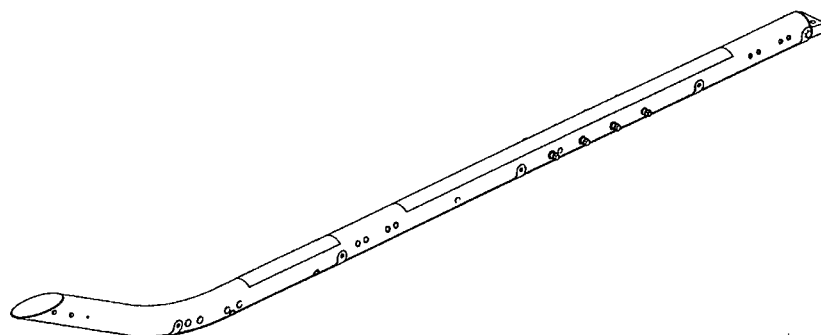
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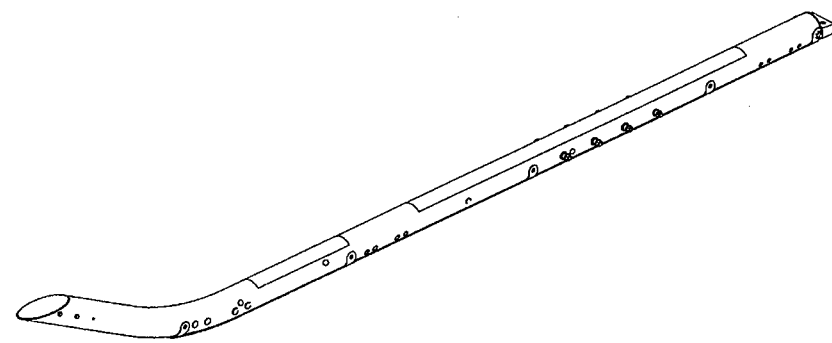
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**D4168-041 350 SKIDTUBE ASSEMBLY, LH**



**D4168-042 350 SKIDTUBE ASSEMBLY, RH**

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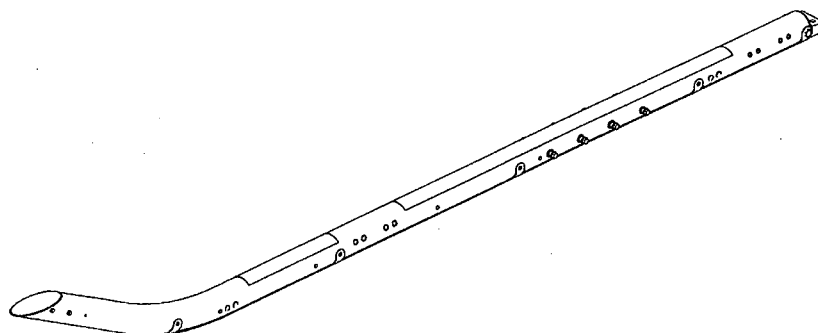
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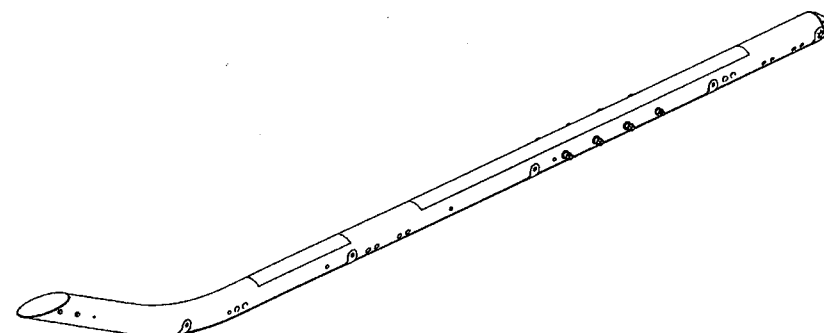
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D4168-043 350 SKIDTUBE ASSEMBLY, LH



D4168-044 350 SKIDTUBE ASSEMBLY, RH

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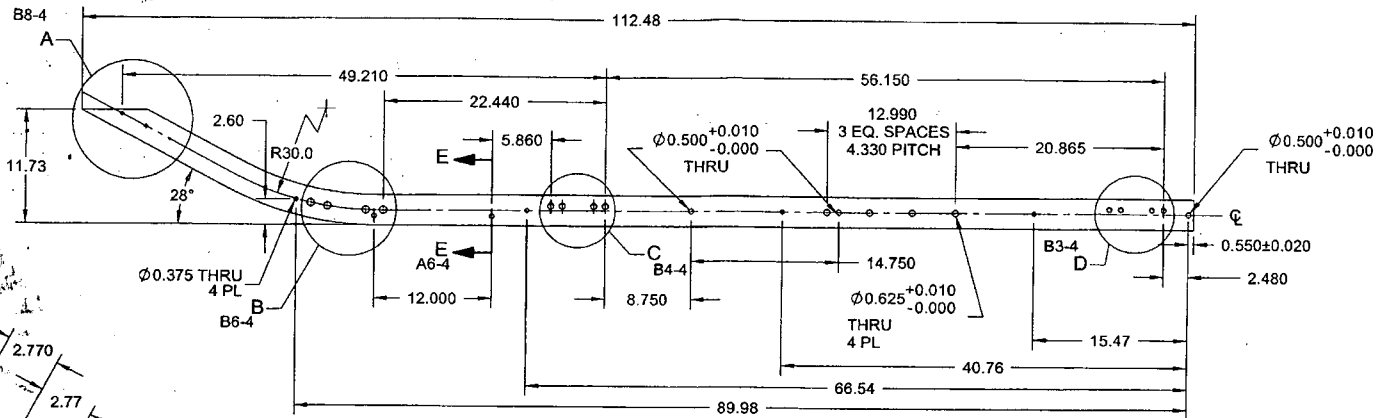
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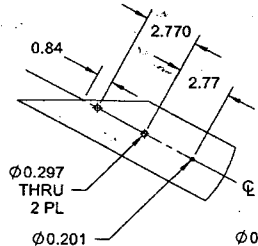


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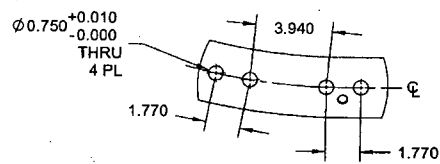
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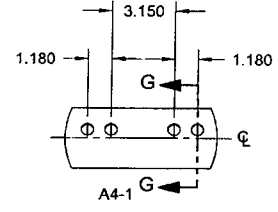
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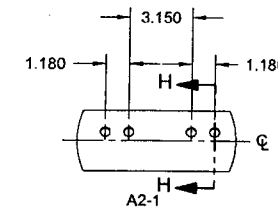
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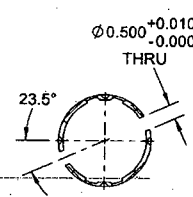
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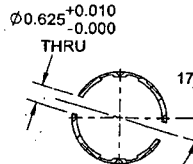
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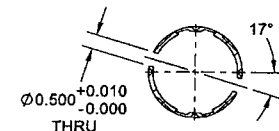
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SCALE 2X



**SECTION E-E**  
SCALE 3X, 2 PL



**SECTION G-G**  
SCALE 3X, 4 PL



**SECTION H-H**  
SCALE 3X, 4 PL

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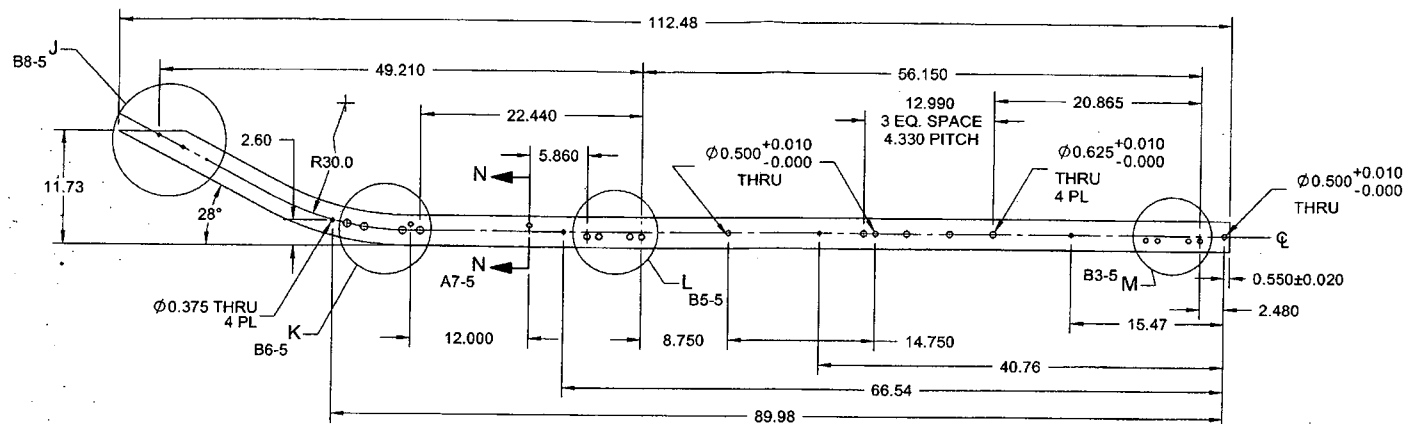
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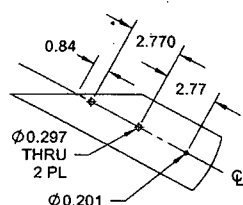
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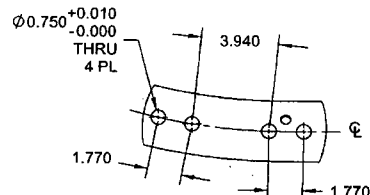


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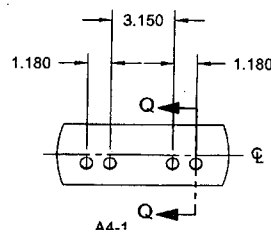
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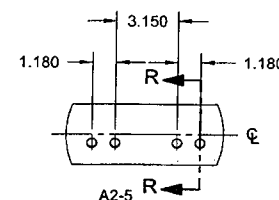
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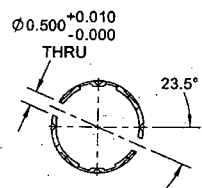
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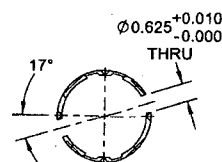
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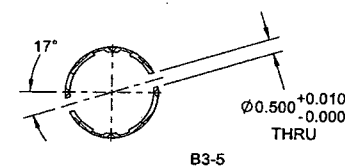
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**SECTION N-N**  
SCALE 3X, 2 PL



**SECTION Q-Q**  
SCALE 3X, 4 PL



**SECTION R-R**  
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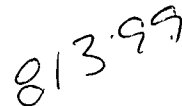
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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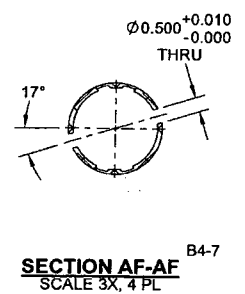
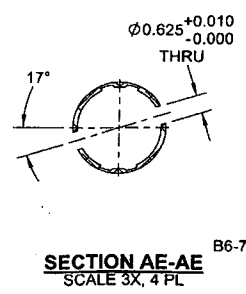
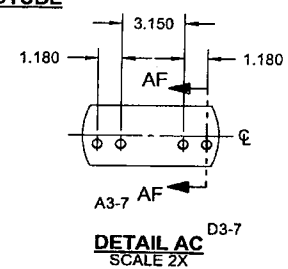
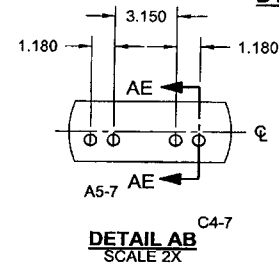
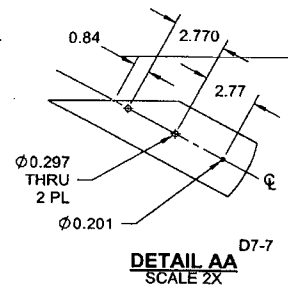
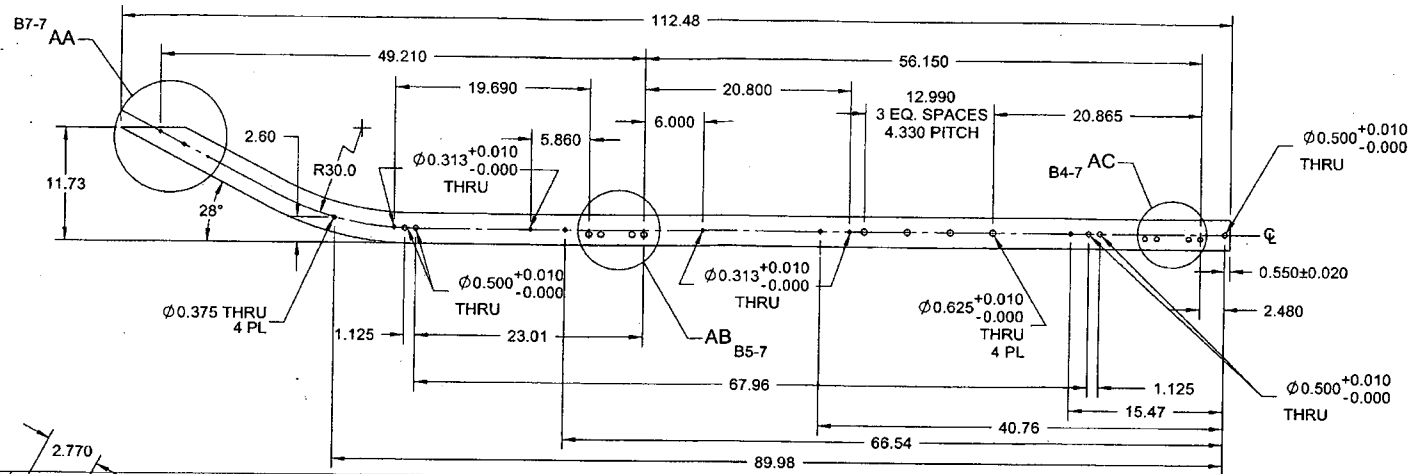
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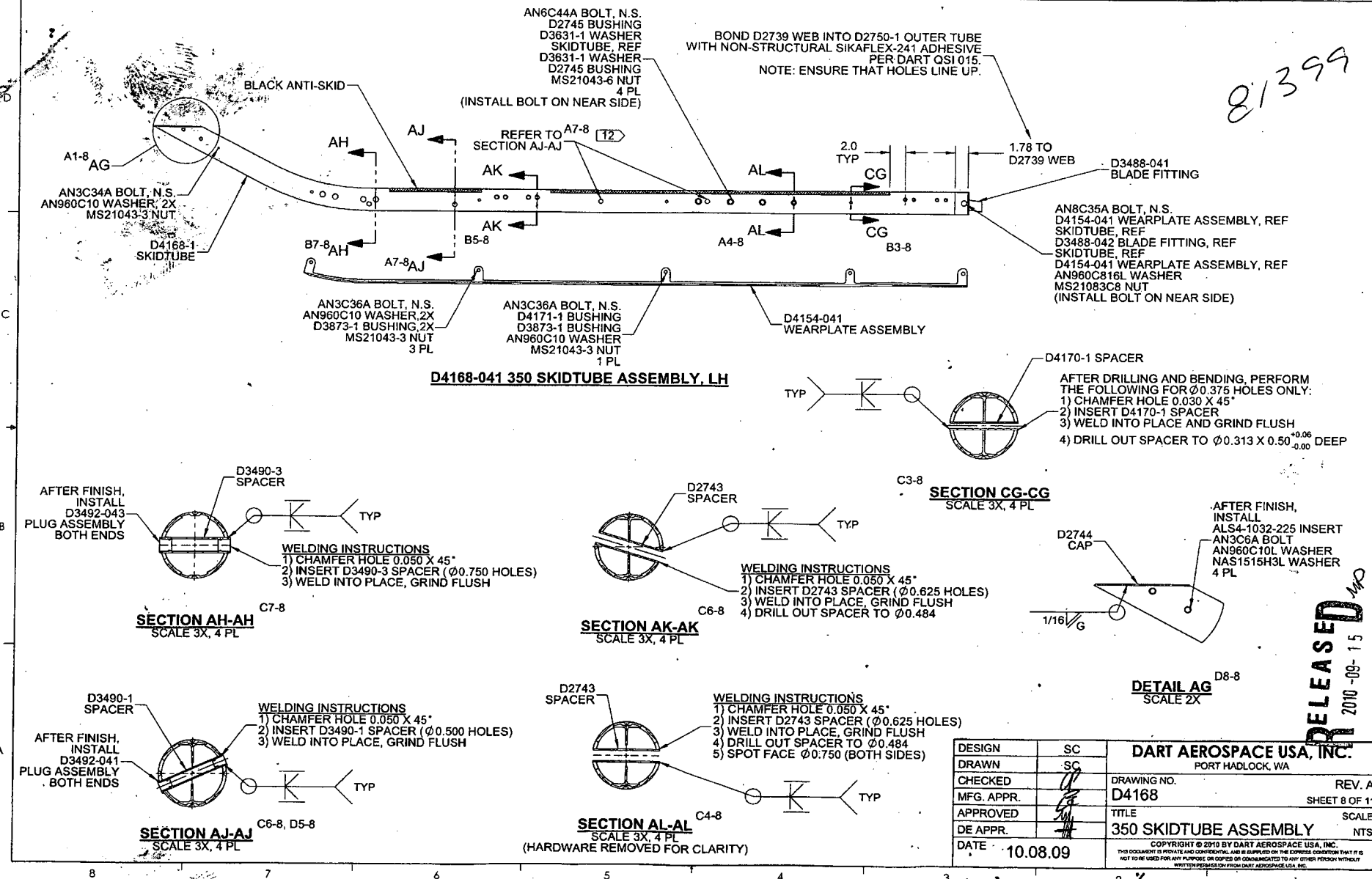
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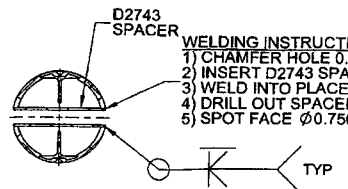
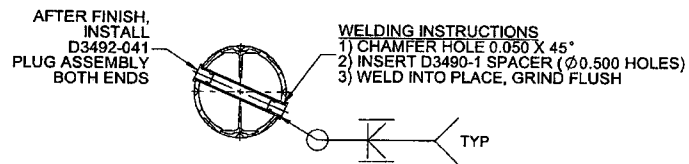
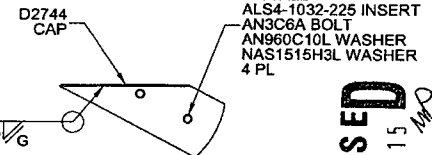
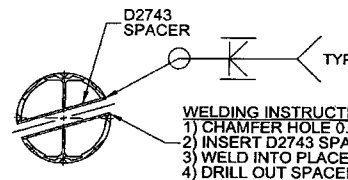
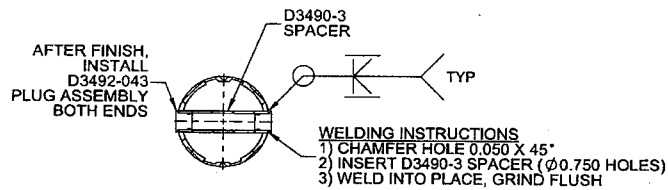
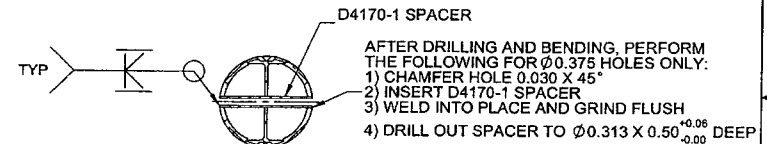
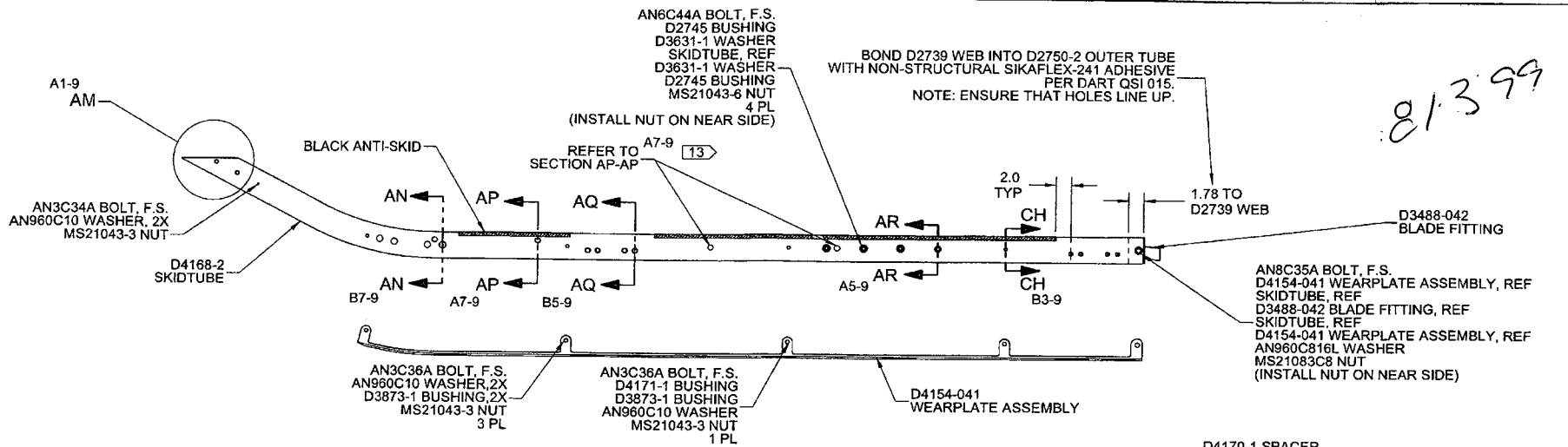
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**SECTION AR-AR**  
SCALE 3X, 4 PL  
(WARE REMOVED FOR CLARITY)

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b> PART HADLOCK, WA  DRAWING NO. <b>D4168</b>  TITLE <b>350 SKIDTUBE ASSEMBLY</b>  COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND UNCLASSIFIED. IT IS THE PROPERTY OF DART AEROSPACE USA, INC. AND IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE USA, INC.	REV. A
DRAWN	SC		SHEET 9 OF 11
CHECKED	<i>JP</i>		SCALE
MFG. APPR.	<i>JP</i>		NTS
APPROVED	<i>JP</i>		
DE APPR.	<i>JP</i>		
DATE 10.08.09			

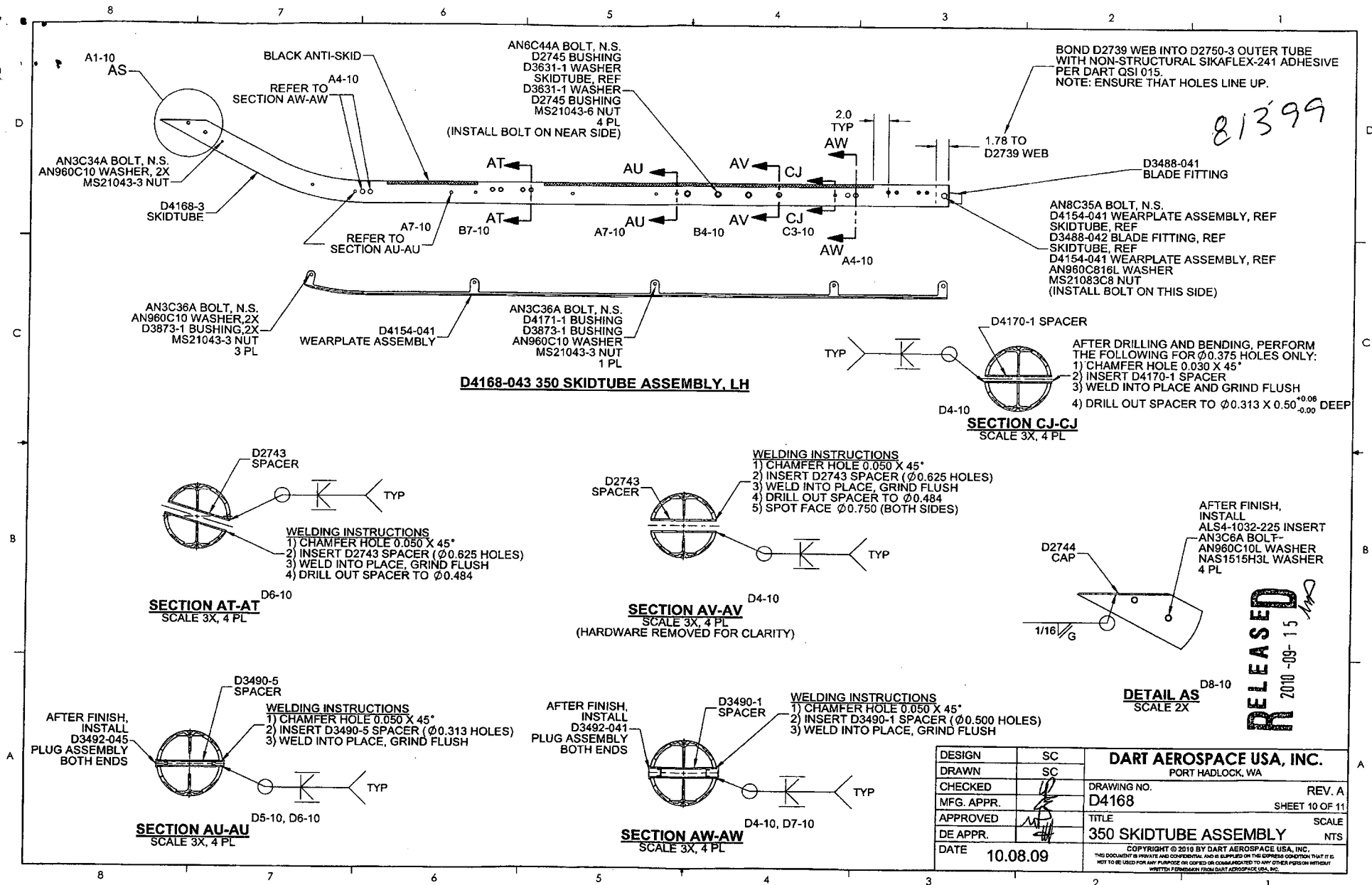
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

8 7 6 5 4 3 2 1

A1-11  
BA

BLACK ANTI-SKID

AN6C44A BOLT, F.S.  
D2745 BUSHING  
D3631-1 WASHER  
SKIDTUBE, REF  
D3631-1 WASHER  
D2745 BUSHING  
MS21043-6 NUT  
4 PL  
(INSTALL NUT ON NEAR SIDE)

BOND D2739 WEB INTO D2750-4 OUTER TUBE  
WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE  
PER DART QSI 015.  
NOTE: ENSURE THAT HOLES LINE UP.

81399

AN3C34A BOLT, N.S.  
AN960C10 WASHER, 2X  
MS21043-3 NUT

D4168-4  
SKIDTUBE

REFER TO  
SECTION BE-BE

REFER TO  
SECTION BC-BC

AN3C36A BOLT, F.S.  
AN960C10 WASHER, 2X  
D3873-1 BUSHING  
MS21043-3 NUT  
3 PL

D4154-041  
WEARPLATE ASSEMBLY

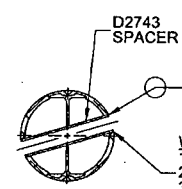
AN3C36A BOLT, F.S.  
D4171-1 BUSHING  
D3873-1 BUSHING  
AN960C10 WASHER  
MS21043-3 NUT  
1 PL

**D4168-044 350 SKIDTUBE ASSEMBLY, RH**

AN8C35A BOLT, F.S.  
D4154-041 WEARPLATE ASSEMBLY, REF  
SKIDTUBE, REF  
D3488-042 BLADE FITTING, REF  
SKIDTUBE, REF  
D4154-041 WEARPLATE ASSEMBLY, REF  
AN960C816L WASHER  
MS21083C8 NUT  
(INSTALL NUT ON NEAR SIDE)

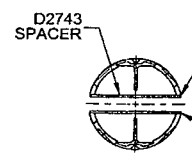
D4170-1 SPACER

AFTER DRILLING AND BENDING,  
PERFORM THE FOLLOWING  
FOR  $\phi 0.375$  HOLES ONLY:  
1) CHAMFER HOLE  $0.030 \times 45^\circ$   
2) INSERT D4170-1 SPACER  
3) WELD INTO PLACE AND  
GRIND FLUSH  
4) DRILL OUT SPACER TO  
 $\phi 0.313 \times 0.50^{+0.00}_{-0.00}$  DEEP



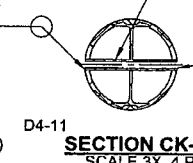
WELDING INSTRUCTIONS  
1) CHAMFER HOLE  $0.050 \times 45^\circ$   
2) INSERT D2743 SPACER ( $\phi 0.625$  HOLES)  
3) WELD INTO PLACE, GRIND FLUSH  
4) DRILL OUT SPACER TO  $\phi 0.484$

**SECTION BB-BB**  
SCALE 3X, 4 PL

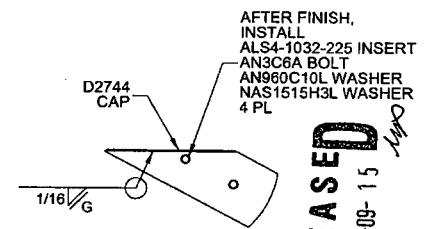


WELDING INSTRUCTIONS  
1) CHAMFER HOLE  $0.050 \times 45^\circ$   
2) INSERT D2743 SPACER ( $\phi 0.625$  HOLES)  
3) WELD INTO PLACE, GRIND FLUSH  
4) DRILL OUT SPACER TO  $\phi 0.484$   
5) SPOT FACE  $\phi 0.750$  (BOTH SIDES)

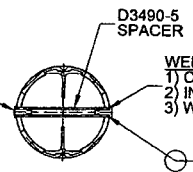
**SECTION BD-BD**  
SCALE 3X, 4 PL  
(HARDWARE REMOVED FOR CLARITY)



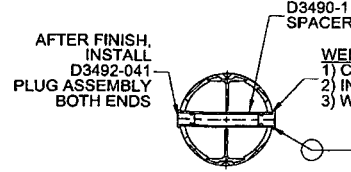
**SECTION CK-CK**  
SCALE 3X, 4 PL



**DETAIL BA**  
SCALE 2X



**SECTION BC-BC**  
SCALE 3X, 4 PL



**SECTION BE-BE**  
SCALE 3X, 4 PL

AFTER FINISH,  
INSTALL  
D3492-045  
PLUG ASSEMBLY  
BOTH ENDS

WELDING INSTRUCTIONS  
1) CHAMFER HOLE  $0.050 \times 45^\circ$   
2) INSERT D3490-5 SPACER ( $\phi 0.313$  HOLES)  
3) WELD INTO PLACE, GRIND FLUSH

AFTER FINISH,  
INSTALL  
D3492-041  
PLUG ASSEMBLY  
BOTH ENDS

WELDING INSTRUCTIONS  
1) CHAMFER HOLE  $0.050 \times 45^\circ$   
2) INSERT D3490-1 SPACER ( $\phi 0.500$  HOLES)  
3) WELD INTO PLACE, GRIND FLUSH

AFTER FINISH,  
INSTALL  
ALS4-1032-225 INSERT  
AN3C6A BOLT  
AN960C10L WASHER  
NAS1515H3L WASHER  
4 PL

RELEASED  
2010-09-15

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	SC	DRAWING NO.	REV. A
MFG. APPR.	SC	D4168	SHEET 11 OF 11
APPROVED	SC	TITLE	SCALE
DE APPR.	SC	350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

8 7 6 5 4 3 2 1

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



NO. 286

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 82189  
Part number: A350-006-012  
Description: Skid tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Alum  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier David Lund Date of Test Coupon 12.24.03  
Welder Barclay Elliott Date of Test Coupon 12-04-03

The above named individual is qualified in accordance with AWS D17.1.2001 to weld